Translation

PATENT COOPERATION TREATY

PCT/JP2003/008039

519113

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference ONF-4571PCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/008039	International filing date (*day/month/year*) 25 June 2003 (25.06.2003)	Priority date (*day/month/year*) 26 June 2002 (26.06.2002)
International Patent Classification (IPC) or national classification and IPC A61K 45/00, 31/437, 31/445, A61P 9/00, 9/06, 9/10, 9/12, 9/14, 13/12, 25/06, 43/00, C07D 471/04		
Applicant ONO PHARMACEUTICAL CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
06 January 2004 (06.01.2004)	26 September 2004 (26.09.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2003/008039

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No. PCT/JP03/08039

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 10-70

because:

☒ the said international application, or the said claims Nos. 61-65 relate to the following subject matter which does not require an international preliminary examination *(specify):*

The subject matters of claims 61-65 relate to a method for treatment of the human body by therapy, which does not require the preliminary international examination by the Preliminary International Examining Authority in accordance with PCT Article 34(4)(a)(i) and Rule 67.1(iv).

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. _____ are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claims Nos. 10-70.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form
- ☐ has not been furnished
- ☐ does not comply with the standard

the computer readable form
- ☐ has not been furnished
- ☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ see Supplemental Box for further details.

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:

   ☐ restricted the claims.

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

   ☐ complied with.

   ☒ not complied with for the following reasons:

The technical feature of the subject matter of claim 1 is "A remedy and/or preventive comprising an EDG-5 regulator for the diseases caused by vasoconstriction or vasodilation," and the subject matters of claims 2-9 quote claim 1.

The technical feature of the subject matter of claim 10 is "A compound represented by general formula (I) A-X-Y-Z-B," and the subject matters of claims 11-60 and 66-70 substantially quote claim 10.

As described above, since the subject matters of claims 1-9 and the subject matters of claims 10-60 and 66-70 do not have a common technical feature, it is not considered that they are so linked as to form a single general inventive concept.

4. Consequently, this report has been established in respect of the following parts of the international application:

   ☐ all parts.

   ☒ the parts relating to claims Nos. 1-9.

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	6, 7	YES
	Claims	1-5, 8, 9	NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims		YES
	Claims	1-9	NO

2. Citations and explanations (Rule 70.7)

Claims 1-5, 8 and 9
Document 1: JP, 2001-261575, & WO, 01-69252, A1

Document 1 cited in the ISR describes that an EDG-5 receptor agonist and an EDG-receptor inhibitor are used to regulate vasoconstriction (see claims 5, 29, etc.).

Therefore, the subject matters of claims 1-5, 8 and 9 do not appear to be novel or to involve an inventive step.

Claims 6 and 7
Document 2: WO, 01-98301, A1

Document 2 cited in the ISR describes that the compounds corresponding to general formulae (I) and (II) have EDG-5 antagonist activity. A person skilled in the art could have easily used the compounds described in document 2 as EDG receptor inhibitors in the invention described in document 1.

Therefore, the subject matters of claims 6 and 7 do not appear to involve an inventive step.

Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date *(day/month/year)*	Filing date *(day/month/year)*	Priority date (valid claim) *(day/month/year)*
W0 03/051976 A1 [E, X]	26.06.2003	13.12.2002	14.12.2001

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure *(day/month/year)*	Date of written disclosure referring to non-written disclosure *(day/month/year)*

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The subject matters of claims 1-5, 8 and 9 relate to a remedy and/or preventive containing a compound defined by a desired nature called "EDG-5 regulator" as an active ingredient, for the diseases caused by vasoconstriction or vasodilation, and claims 1-5, 8 and 9 include all the compounds with such a nature. However, the compounds disclosed in the sense of PCT Article 5 are only a very small portion of the claimed compounds, and the claimed compounds are not supported by the disclosure of the specification in the sense of PCT Article 6.

Furthermore, since the "EDG-5 regulator" does not allow the scope of the compounds with such a nature to be identified even if the common general technical knowledge prevailing on the filing date of the present application is considered, the subject matters of claims 1-5, 8 and 9 do not satisfy the requirement of clarity in PCT Article 6.

The subject matters of claims 6 and 7 relate to "a remedy and/or preventive containing a compound defined by a desired nature called "EDG-5 regulator" as an active ingredient for the diseases caused by vasoconstriction or vasodilation. General formulae (I) and (II) include very numerous compounds. However, the compounds disclosed in the sense of PCT Article 5 are only a very small portion of the claimed compounds, and the claimed compounds are not sufficiently supported in the sense of PCT Article 6.